

REMARKS

Applicant respectfully requests reconsideration and allowance of the subject application. Claims 1-86 are pending, of which claims 1, 18, 27, 39-42, 44-48, 50-54, 73, and 81 have been amended. The amendments to claims 1, 18, 27, 39-42, 44-48, 50-54, 73, and 81 are simply to provide clarification and/or to correct informalities noted by the Applicant, and are not to overcome prior art or any other objections.

35 U.S.C. §102 Claim Rejections

Claims 1-14, 18-24, 27-36, 39-40, 42-67, and 72-86 are rejected under 35 U.S.C. §102(a) as being anticipated by a document entitled "Windows 2000 Active Directory" by Lowe-Norris (hereinafter, "Norris") (*Office Action* p.2). Applicant respectfully traverses the rejection.

Claim 1 recites "an object having an attribute comprised of individual linked values, each linked value having conflict-resolution data". Norris does not show or disclose an object attribute which is comprised of individual linked values that each have conflict-resolution data, as recited in claim 1.

Norris describes objects which are structured as object: properties: value(s), where the values of a property can include a version number and a timestamp. The version number and timestamp are associated with a property when the property is created or modified. The Office simply states that Norris teaches conflict-resolution data (version number and timestamp) as shown in Fig. 4-1 (p.68) (*Office Action* p.3). A version number and timestamp shown in Norris

1 Fig. 4-1 corresponds to a particular property of an object, and a version number or
2 timestamp is itself a value of the particular property.

3 Contrary to Norris, Applicant claims that each linked value of an attribute
4 has associated conflict-resolution data. See Applicant's Fig. 4, for example. An
5 object (314) has attributes (322) one of which is "Members" (334) that includes
6 individual linked values (342), each linked value (342) has associated
7 conflict-resolution data (346) (i.e., version and timestamp value data). Norris
8 Fig. 4-1 does not show linked values of a property where the values themselves
9 have conflict-resolution data.

10 Accordingly, claim 1 is allowable over Norris for at least this reason and
11 the §102 rejection should be withdrawn.

12
13 Claim 1 also recites that a replication conflict between a linked value of the
14 attribute in the object and the linked value of the attribute in the replica object is
15 resolved with the conflict-resolution data associated with the linked values. Norris
16 does not show or disclose a replication conflict resolved with conflict-resolution
17 data of individual linked values, as recited in claim 1. Norris specifically states
18 that reconciliation starts by looking at the version numbers of two *properties*, and
19 whichever *property* has the higher version number wins the conflict (Norris
20 p.77, ¶3).

21 The Office cites to Norris p.77, 3rd paragraph for teaching "the replication
22 conflict being resolved with the conflict-resolution data associated with the linked
23 value" (*Office Action* p.3). However, the cited section of Norris only describes
24 conflict resolution if an object is moved under a deleted parent. There is no
25

1 indication in Norris of a replication conflict resolved with conflict-resolution data
2 of individual linked values, as recited in claim 1. Further, without a better
3 indication as to the basis for the rejection, Applicant respectfully submits that the
4 Office has not provided a *prima facie* rejection of this feature recited in claim 1.

5 Accordingly, claim 1 is also allowable over Norris for at least these
6 additional reasons and the §102 rejection should be withdrawn.

7
8 Claims 2-14 are allowable by virtue of their dependency upon claim 1.
9 Additionally, some or all of claims 2-14 are allowable over Norris for independent
10 reasons. For example:

11 Claim 3 recites that “the conflict-resolution data comprises a version
12 indicator that corresponds to a version of an individual linked value.” As
13 described above in the response to the rejection of claim 1, Norris does not show
14 or disclose conflict-resolution data that is associated with an individual linked
15 value. Norris only shows a version number in Fig. 4-1 (p.68) that corresponds to a
16 particular property of an object, and further, the version number is itself a value of
17 the particular property. Norris does not show a version indicator that corresponds
18 to an individual linked value, as recited in claim 3. Accordingly, claim 3 is
19 allowable over Norris and the §102 rejection should be withdrawn.

20 Claim 6 recites that “the conflict-resolution data comprises an update
21 timestamp that corresponds to when an individual linked value is updated”. As
22 described above in the response to the rejection of claim 1, Norris does not show
23 or disclose conflict-resolution data that is associated with an individual linked
24 value. Norris only shows a timestamp in Fig. 4-1 (p.68) that corresponds to a
25

1 particular property of an object, and further, the timestamp is itself a value of the
2 particular property. Norris does not show an update timestamp that corresponds to
3 an individual linked value, as recited in claim 6. Accordingly, claim 6 is
4 allowable over Norris and the §102 rejection should be withdrawn.

5 Claim 7 recites that “the conflict-resolution data comprises a creation
6 indicator that corresponds to when an individual linked value is created”. As
7 described above in the response to the rejection of claim 1, Norris does not show
8 or disclose conflict-resolution data that is associated with an individual linked
9 value. Further, Norris Fig. 4-1 (p.68) does not show any such creation indicator as
10 the Office contends (*Office Action* p.5). The Office merely states that Norris
11 Fig. 4-1 teaches a creation indicator, but without a better indication as to the basis
12 for the rejection, Applicant respectfully submits that the Office has not provided a
13 *prima facie* rejection of claim 7. Accordingly, claim 7 is allowable over Norris
14 and the §102 rejection should be withdrawn.

15 Claims 4-5 and 8-14 are also allowable over Norris for one or more of the
16 reasons that claims 3 and 6-7 are allowable as described above, and the §102
17 rejection should be withdrawn.

18
19 Claim 18 recites “an object having a multi-valued attribute that includes a
20 value which is a reference link to multiple linked values, each linked value having
21 indicators to indicate a change to a corresponding linked value”. Norris does not
22 show or disclose an object having a multi-valued attribute that includes a value
23 which is a reference link to multiple linked values, as recited in claim 18. Norris
24
25

1 also does not show or disclose each linked value having indicators to indicate a
2 change to a corresponding linked value, as recited in claim 18.

3 As described above in the response to the rejection of claim 1, Norris does
4 not show any such indicators corresponding to an individual linked value. Further,
5 there is no indication in Norris that a value of an object attribute is a reference link
6 to multiple linked values. For example, see Applicant's Fig. 4 in which an object
7 (314) has a "Members" (334) attribute which includes a reference link (336) to
8 multiple linked values (342), each of which have indicators (346) to indicate a
9 change to a linked value.

10 The Office simply lists the elements of claim 18 and states that Norris
11 teaches the elements in Norris Fig. 4-1 (p.68) (Office Action p.9). However,
12 Norris Fig. 4-1 does not show an object having a multi-valued attribute that
13 includes a value which is a reference link to multiple linked values, and does not
14 show each linked value having indicators to indicate a change to a corresponding
15 linked value, as recited in claim 18.

16 Accordingly, claim 18 is allowable over Norris for at least these reasons
17 and the §102 rejection should be withdrawn.

18
19 Claims 19-24 are allowable by virtue of their dependency upon claim 18.
20 Additionally, some or all of claims 19-24 are allowable over Norris for
21 independent reasons. For example:

22 Claim 20 recites "a version indicator that corresponds to a version of a
23 linked value";
24
25

1 Claim 21 recites “an update indicator that corresponds to when a linked
2 value is changed”;

3 Claim 22 recites “a creation indicator that corresponds to when a linked
4 value is created”;

5 Claim 23 recites “an update timestamp that corresponds to when the linked
6 value is changed”; and

7 Claim 24 recites “a creation timestamp that corresponds to when a linked
8 value is created, ..., and an update timestamp that corresponds to when the linked
9 value is changed”.

10 As described above in the response to the rejection of claims 3 and 6-7,
11 Norris does not show or disclose any such indicators (e.g., update indicator,
12 creation indicator, update timestamp, and creation timestamp) that correspond to
13 when a linked value (e.g., one of multiple linked values of an object attribute) is
14 created and/or changed. Accordingly, claims 20-24 are allowable over Norris and
15 the §102 rejection should be withdrawn.

16
17 Claim 27 recites a “data structure having a multi-valued attribute that
18 includes a reference link to multiple linked values, each linked value having
19 conflict-resolution information to indicate a change to a corresponding linked
20 value of the attribute”. Norris does not show or disclose a multi-valued attribute
21 that includes a reference link to multiple linked values, as recited in claim 27.
22 Norris also does not show or disclose each linked value having conflict-resolution
23 information to indicate a change to a corresponding linked value, as recited in
24 claim 27.
25

1 As described above in the response to the rejection of claim 18, Norris does
2 not show conflict-resolution information corresponding to an individual linked
3 value. Further, there is no indication in Norris that an attribute includes a
4 reference link to multiple linked values. For example, see Applicant's Fig. 4 in
5 which an object (314) has a "Members" (334) attribute which includes a reference
6 link (336) to multiple linked values (342).

7 The Office simply restates Applicant's claim and states that Norris teaches
8 the elements in Norris Fig. 4-1 (p.68) (Office Action p.10). However, Norris
9 Fig. 4-1 does not show a data structure having a multi-valued attribute that
10 includes a reference link to multiple linked values, and does not show each linked
11 value having conflict-resolution information, as recited in claim 27.

12 Accordingly, claim 27 is allowable over Norris for at least these reasons
13 and the §102 rejection should be withdrawn.
14

15 Claim 27 also recites that a replication conflict between linked values in
16 first and second data structures is resolved with the conflict-resolution information
17 associated with the linked values. Norris does not show or disclose a replication
18 conflict resolved with conflict-resolution data of individual linked values, as
19 recited in claim 27. Norris specifically states that a replication conflict is resolved
20 by looking at the version numbers of two *properties*, and whichever *property* has
21 the higher version number wins the conflict (Norris p.77, ¶3).

22 The Office cites to Norris p.77 for teaching a replication conflict being
23 resolved with conflict-resolution data of individual linked values. However, there
24 is no indication in Norris of a replication conflict resolved with conflict-resolution
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1 data of individual values, as recited in claim 27. Further, without a better
2 indication as to the basis for the rejection, Applicant respectfully submits that the
3 Office has not provided a *prima facie* rejection of this feature recited in claim 27.

4 Accordingly, claim 27 is also allowable over Norris for at least these
5 additional reasons and the §102 rejection should be withdrawn.

6
7 Claims 28-36 are allowable by virtue of their dependency upon claim 27.
8 Additionally, some or all of claims 28-36 are allowable over Norris for
9 independent reasons. For example, claims 29-36 are also allowable over Norris
10 for one or more of the reasons that claims 3, 6-7, and 20-24 are allowable as
11 described above, and the §102 rejection should be withdrawn.

12
13 Claim 39 recites a computer-readable medium having stored thereon a first
14 data structure and a second data structure comprising “a first data field of the first
15 data structure containing an attribute”, and “a second data field of the first data
16 structure containing a value of the attribute contained in the first data field, the
17 value being a reference link to multiple linked values contained in the second data
18 structure”. As described above in the response to the rejections of claims 18 and
19 27, there is no indication in Norris that an attribute value is a reference link to
20 multiple linked values. For example, see Applicant’s Fig. 4 in which an object
21 (314) has a “Members” (334) attribute which includes a reference link (336) to
22 multiple linked values (342).

23 The Office simply restates Applicant’s claim and states that Norris teaches
24 the elements in Norris Fig. 4-1 (p.68) (Office Action p.15). However, Norris
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1 Fig. 4-1 does not show the features of claim 39. Accordingly, claim 39 along with
2 dependent claim 40 is allowable over Norris and the §102 rejection should be
3 withdrawn.

4
5 Claim 42 recites “an object having a multi-valued attribute that includes a
6 value which is a reference link to multiple linked values”, “a second object having
7 the multi-valued attribute that includes the reference link to the multiple linked
8 values, each linked value configured to have conflict-resolution data”, and a
9 computer to “resolve a replication conflict between the object and the second
10 object at the attribute value level with the conflict-resolution data associated with a
11 linked value.”

12 As described above in the response to the rejections of claims 18 and 27,
13 there is no indication in Norris that a value of a multi-valued attribute is a
14 reference link to multiple linked values, as recited in claim 42. Further, as
15 described above in the response to the rejections of claims 1 and 27, Norris does
16 not show or disclose a replication conflict resolved with conflict-resolution data
17 that is associated with a linked value, as recited in claim 42.

18 The Office simply restates Applicant’s claim and states that Norris teaches
19 the elements in Norris Fig. 4-1 (p.68), and cites to Norris p.77 for teaching a
20 replication conflict being resolved with conflict-resolution data associated with a
21 linked value (Office Action p.16). However, there is no indication in Norris of a
22 replication conflict resolved with conflict-resolution data of individual values, as
23 recited in claim 42, and Norris Fig. 4-1 does not provide a basis to reject claim 42.
24
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1 Accordingly, claim 42 along with dependent claims 43-54 are allowable
2 over Norris and the §102 rejection should be withdrawn.

3
4 Claim 55 recites “the object and the replica object each having an attribute
5 comprised of multiple linked values, the multiple linked values each having
6 conflict-resolution data”, and “resolving the replication conflict with the
7 conflict-resolution data associated with the individual linked values.”

8 As described above in the response to the rejection of claim 1, Norris
9 Fig. 4-1 does not show or disclose multiple linked values of an attribute where the
10 linked values themselves have conflict-resolution data, as recited in claim 55. To
11 the contrary, Norris describes objects which are structured as
12 object: properties: value(s), where the values of a property can include a version
13 number and a timestamp. A version number and timestamp shown in Norris
14 Fig. 4-1 corresponds to a particular property of an object, and a version number or
15 timestamp is itself a value of the particular property.

16 Norris does not show or disclose a replication conflict resolved with
17 conflict-resolution data associated with the individual linked values, as recited in
18 claim 55. Norris specifically states that a conflict is resolved by looking at the
19 version numbers of two *properties*, and whichever *property* has the higher version
20 number wins the conflict (*Norris* p.77, ¶3). As in the rejection of claim 1, the
21 Office cites to *Norris* p.77, 3rd paragraph for teaching “resolving the replication
22 conflict with the conflict-resolution data associated with the individual linked
23 values” (*Office Action* p.19). However, the cited section of *Norris* only describes
24 conflict resolution if an object is moved under a deleted parent. There is no
25

1 indication in Norris of a replication conflict resolved with conflict-resolution data
2 associated with the individual linked values, as recited in claim 55. Further,
3 Applicant respectfully submits that the Office has not provided a *prima facie*
4 rejection of this feature recited in claim 55.

5 Accordingly, claim 55 is allowable over Norris for at least these reasons
6 and the §102 rejection should be withdrawn.

7
8 Claims 56-67 and 72 are allowable by virtue of their dependency upon
9 claim 55 (either directly or indirectly). Additionally, some or all claims 56-67
10 and 72 are allowable over Norris for independent reasons. For example, claims
11 56-63 and 65-66 are also allowable over Norris for one or more of the reasons that
12 claims 3, 6-7, and 20-24 are allowable as described above, and the §102 rejection
13 should be withdrawn.

14
15 Claim 73 recites a “method for replicating a linked value of a multi-valued
16 attribute contained in an object, the linked value having conflict-resolution
17 information and replicated from a replica object having the multi-valued attribute
18 and the linked value”, and “identifying a replication conflict with the
19 conflict resolution information associated with the linked values”. As described
20 above in the response to the rejection of claims 1 and 27, Norris does not show or
21 disclose an object having a multi-valued attribute which includes a linked value, or
22 a linked value having associated conflict-resolution information”, as described in
23 claim 73. Accordingly, claim 73 is allowable over Norris and the §102 rejection
24 should be withdrawn.
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1
2 Claims 74-80 are allowable by virtue of their dependency upon claim 73
3 (either directly or indirectly). Additionally, some or all of claims 74-80 are
4 allowable over Norris for independent reasons. For example, claims 74-78 are
5 also allowable over Norris for one or more of the reasons that claims 3, 6-7, and
6 20-24 are allowable as described above, and the §102 rejection should be
7 withdrawn.

8
9 Claim 81 recites a method comprising “replicating a first object with a
10 second object, the first object having an attribute that includes a value which is a
11 reference link to multiple linked values, the second object having an attribute that
12 includes a value which is the reference link to the multiple linked values, each
13 linked value configured to have associated conflict-resolution data”, and
14 “resolving second a replication conflict between the first object and the second
15 object at an attribute value level with the conflict-resolution data associated with
16 the multiple linked values.”

17 As described above in the response to the rejections of claims 18 and 27,
18 there is no indication in Norris that an attribute value is a reference link to multiple
19 linked values. The Office simply restates Applicant’s claim and states that Norris
20 teaches the elements in Norris Fig. 4-1 (p.68) (Office Action p.25). However,
21 Norris Fig. 4-1 does not show the features of claim 81. Accordingly, claim 81
22 along with dependent claims 82-86 are allowable over Norris and the §102
23 rejection should be withdrawn.
24
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1 **35 U.S.C. §103 Claim Rejections**

2 Claims 15-17, 25-26, 37-38, 41, and 68-71 are rejected under
3 35 U.S.C. §103(a) for obviousness over Norris in view of U.S. Patent No.
4 6,295,541 to Bodnar et al. (hereinafter, "Bodnar") (*Office Action* p.26). Applicant
5 respectfully traverses the rejection.

6
7 Claims 15-17 are allowable by virtue of their dependency upon claim 1
8 which is allowable over Norris for at least the reasons described above in response
9 to the §102 rejection of claim 1. Claims 15-17 are also allowable over the
10 Norris-Bodnar combination because Bodnar does not address the deficiencies of
11 Norris as described above in the response to the rejection of claim 1.

12 Claims 25-26 are allowable by virtue of their dependency upon claim 18
13 which is allowable over Norris for at least the reasons described above in response
14 to the §102 rejection of claim 18. Claims 25-26 are also allowable over the
15 Norris-Bodnar combination because Bodnar does not address the deficiencies of
16 Norris as described above in the response to the rejection of claim 18.

17 Claims 37-38 are allowable by virtue of their dependency upon claim 27
18 which is allowable over Norris for at least the reasons described above in response
19 to the §102 rejection of claim 27. Claims 37-38 are also allowable over the
20 Norris-Bodnar combination because Bodnar does not address the deficiencies of
21 Norris as described above in the response to the rejection of claim 27.

22 Claim 41 is allowable by virtue of its dependency upon claim 39 which is
23 allowable over Norris for at least the reasons described above in response to the
24 §102 rejection of claim 39. Claim 41 is also allowable over the Norris-Bodnar
25

1 combination because Bodnar does not address the deficiencies of Norris as
2 described above in the response to the rejection of claim 39.

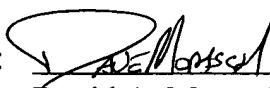
3 Claims 68-71 are allowable by virtue of their dependency upon claim 1
4 which is allowable over Norris for at least the reasons described above in response
5 to the §102 rejection of claim 55. Claims 68-71 are also allowable over the
6 Norris-Bodnar combination because Bodnar does not address the deficiencies of
7 Norris as described above in the response to the rejection of claim 55.

8
9 **Conclusion**

10 Pending claims 1-86 are in condition for allowance. Applicant respectfully
11 requests reconsideration and issuance of the subject application. If any issues
12 remain that preclude issuance of this application, the Examiner is urged to contact
13 the undersigned attorney before issuing a subsequent Action.

14
15 Respectfully Submitted,

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17 Dated: Nov. 26, 2004

18 By: 
19 David A. Morasch
20 Reg. No. 42,905
21 (509) 324-9256 x 210
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